Sewalls Falls Road Bridge

Cultural Resource Meeting

April 4, 2013

Meeting Purpose

- Review of the project process to date
- Project replacement vs. rehabilitation
- Review of recent public process
- Review of public comment to date
- Public comment by Consulting Parties.
- Steps moving forward

Project Background

- Existing Pratt Truss Bridge was originally constructed in 1915
  - Designed by Storrs and Storrs, Concord, NH
  - Constructed by Berlin Construction Co., Conn.
- Trestle extension on south side was constructed in 1937
- Steel deck was added in 1950
- Eligible for Historic Registry
- Bridge functionally obsolete due to the geometry and load capacity.
- Bridge is on NHDOT's Red List
- Continuous maintenance required
  - Bridge closed 2x / 4 months

Project History

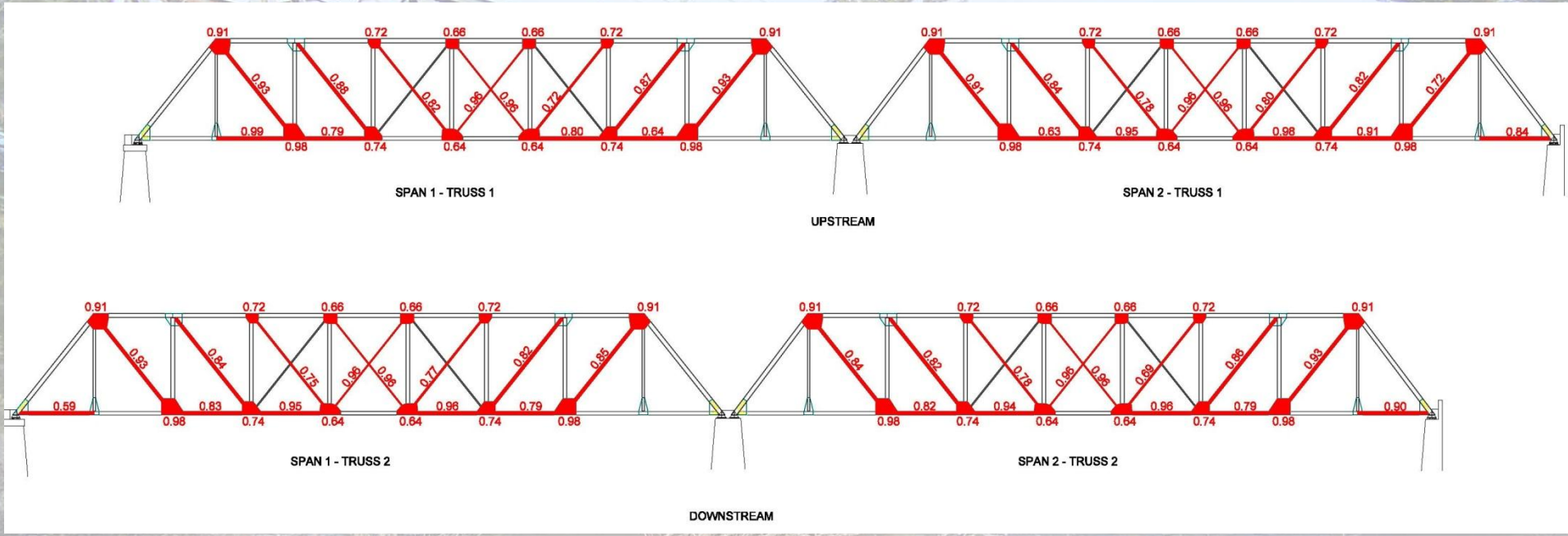
- Project was initiated in 1994 with NHDOT
- NHDOT Preliminary Engineering began in 1999
  - Bridge Replacement / Alternative Alignment evaluation
  - Evolved to consider Rehabilitation through public process
- Preferred Alternative:
  - Rehabilitation of the existing bridge as well as the addition of a one lane steel girder/concrete deck

City Project Development

- 2010 - Project was turned over to the City of Concord
  - Municipally Managed Bridge Aid Program
- 1st Steps
  - Detailed inspection
  - Load rating analysis

Detailed Inspection and Load Rating Results

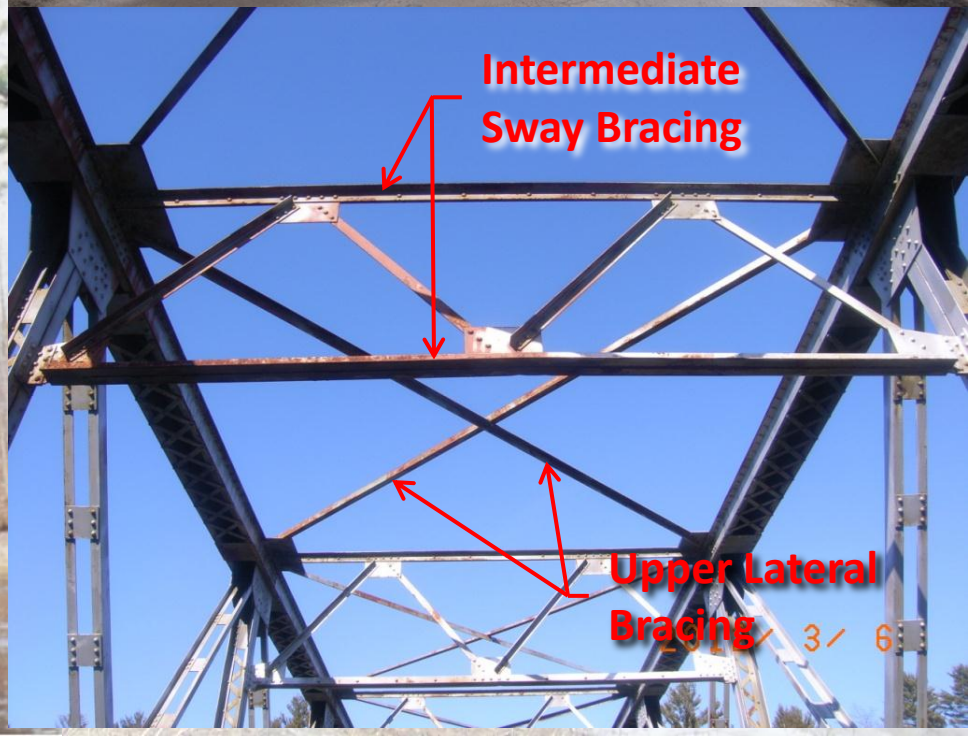
- Extent of rehabilitation greater than initially assumed
- Presented findings and concerns to Cultural Resources



Description	Number Repaired	Total Number In Bridge	% Replaced or Strengthened
1. Replace diagonals bent from vehicular impact	7	40	17.5%
2. Strengthen tension diagonals	25	40	62.3%
3. Strengthen lower chord members	17	36	47.2%
4. Strengthen verticals	7	32	21.9%
5. Strengthen gussets	40	72	55.6%
6. Replace floorbeams	20	20	100%
7. Replace stringers	144	144	100%
8. Replace bottom lateral bracing	36	36	100%
9. Modify Portal / replace intermediate sway bracing	30	30	100%


Lower Lateral Bracing
Stringers
Floor Beams
Bottom Chords


15-4
Portal
Framing
2012/ 3/ 9


Intermediate
Sway Bracing
Upper Lateral
Bracing

City Project Development

- Retained Historic Documentation Company, Inc.
  - Assess rehabilitation impacts to historic significance of bridge
  - Concluded that rehabilitation and replacement of members resulted in adverse effects which were offset by maintaining its use
- City concerns
  - Safety
    - » Extent of rehabilitation
    - » Non-redundant structure
    - » Facture critical members
    - » Less than ideal roadway geometry
  - Long term needs
    - » Future development
    - » Potential new interchange
- Re-evaluate previously investigated alternatives

Design Criteria & Approach

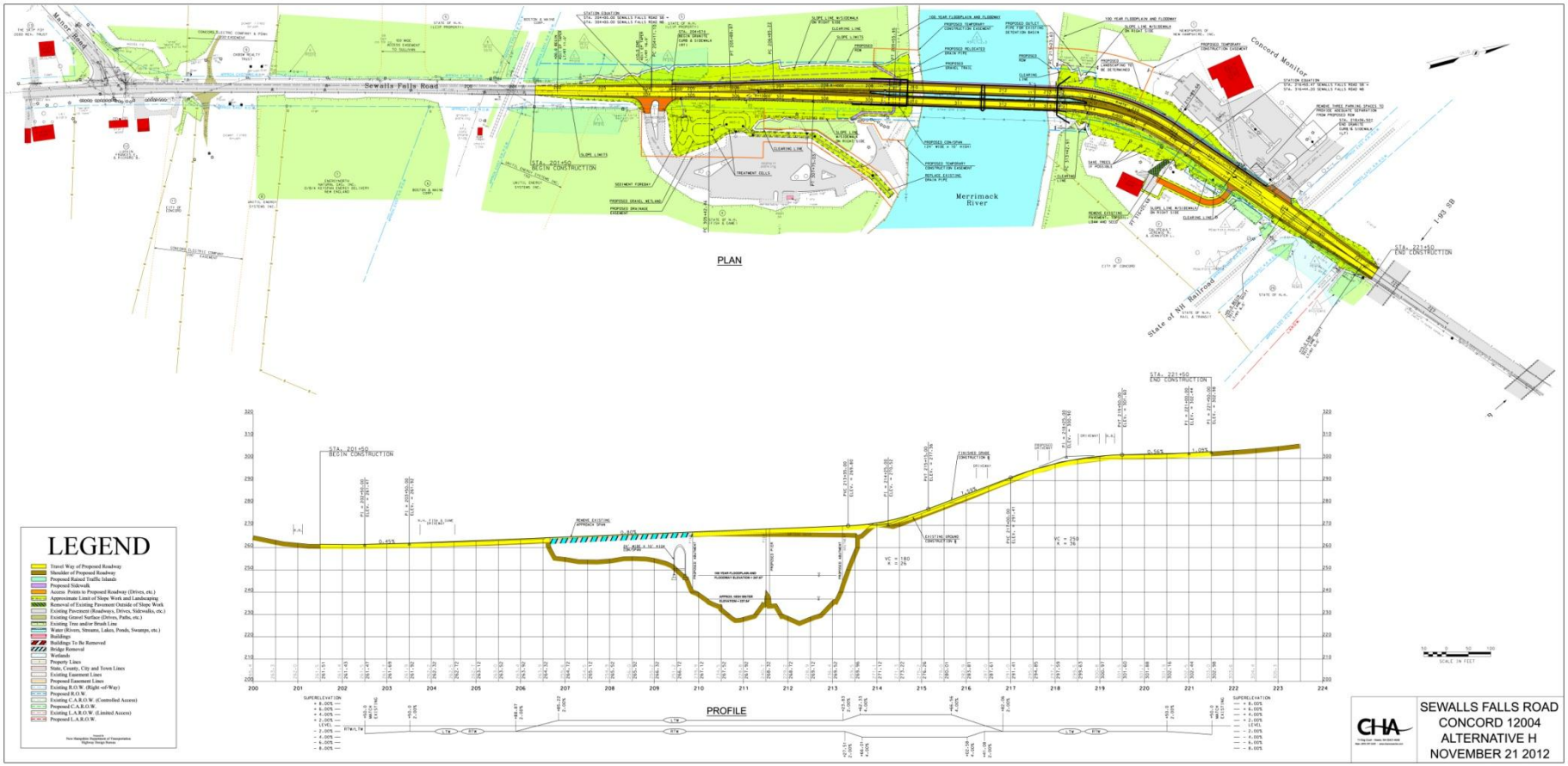
- All three (3) alternatives are based on a common design criteria and design approach: The proposed roadway geometry includes:
  - 2 – 12’ (3.6 m’) travel lanes
  - 5’ (1.5 m) shoulders
  - 5’ (1.5 m) sidewalk(s)

- The roadway alignments are based on a 35 MPH (60 KPH) design speed.

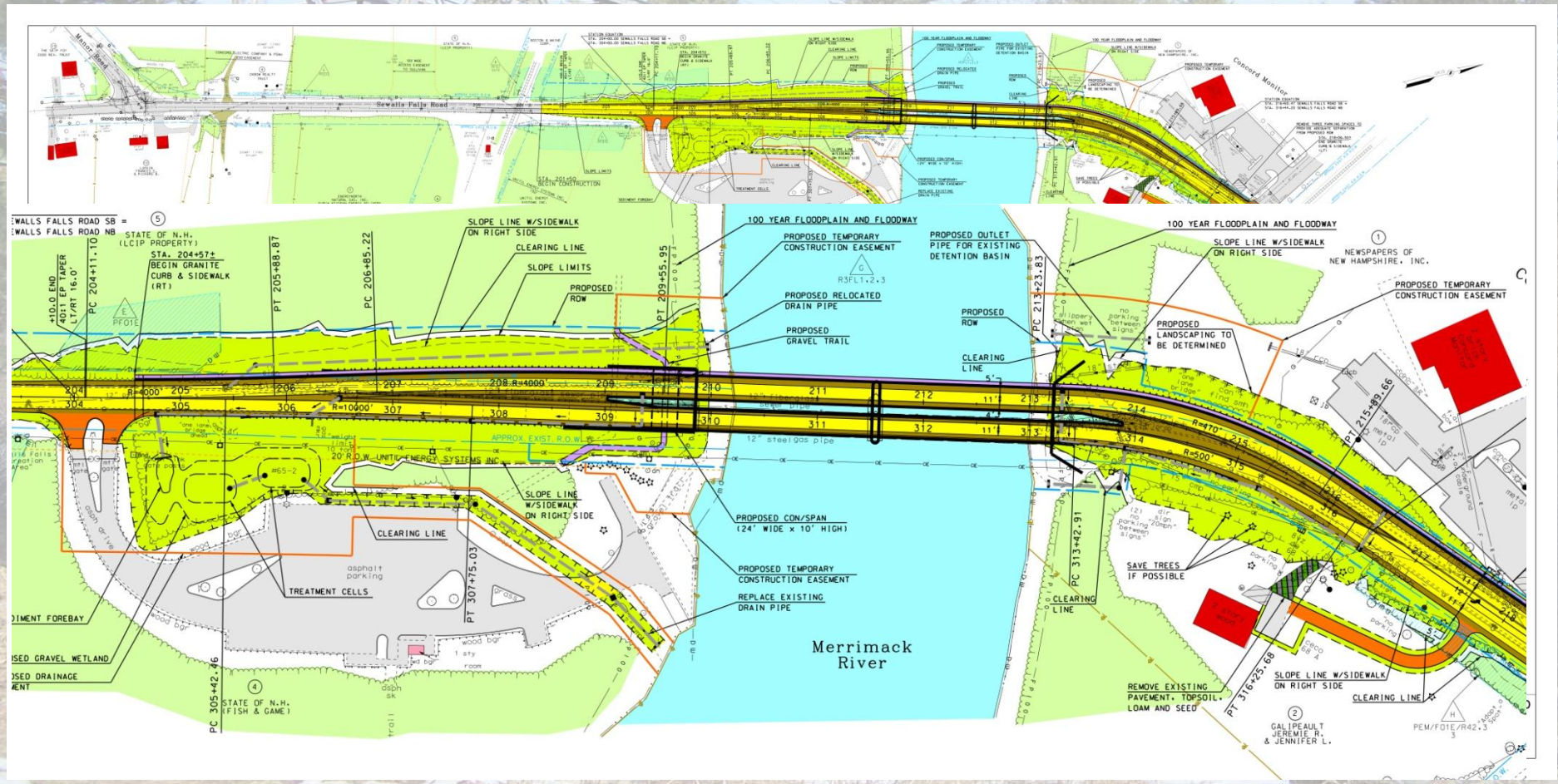
- Southern Approach Spans Removed

- Stormwater Management:
  - Fish and Game parcel
  - Concord Monitor parcel

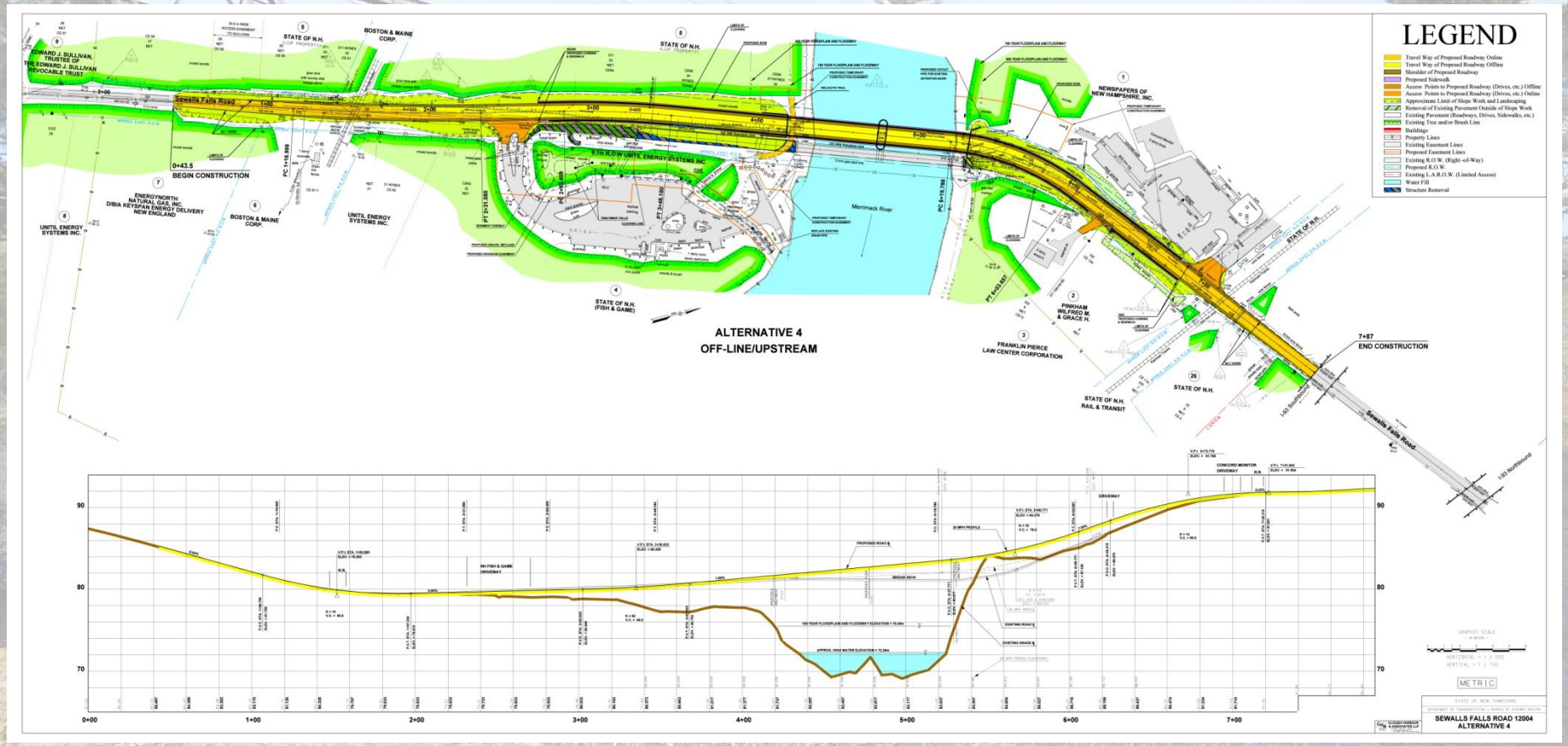
Rehab Existing / Sister Bridge Upstream



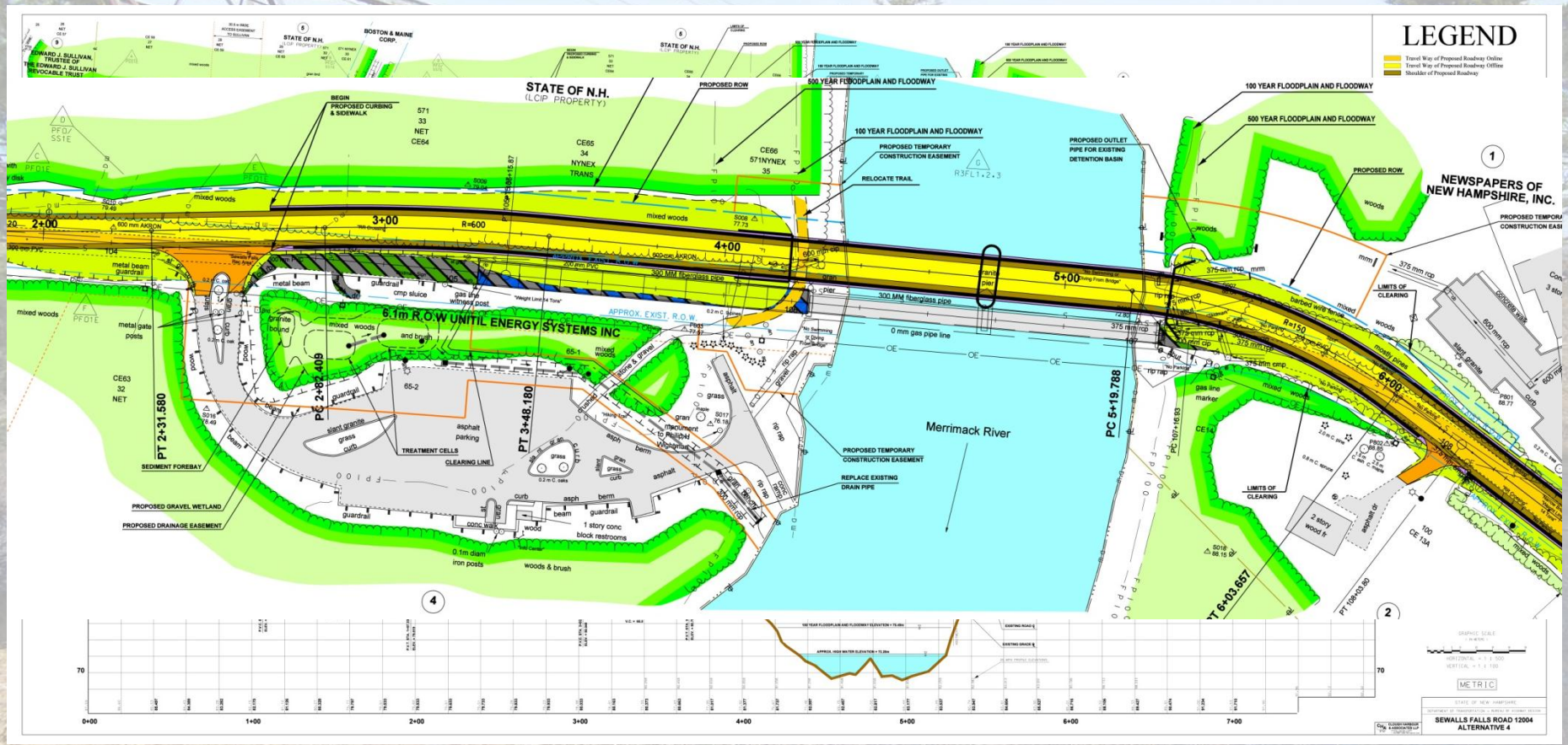
Rehab Existing / Sister Bridge Upstream



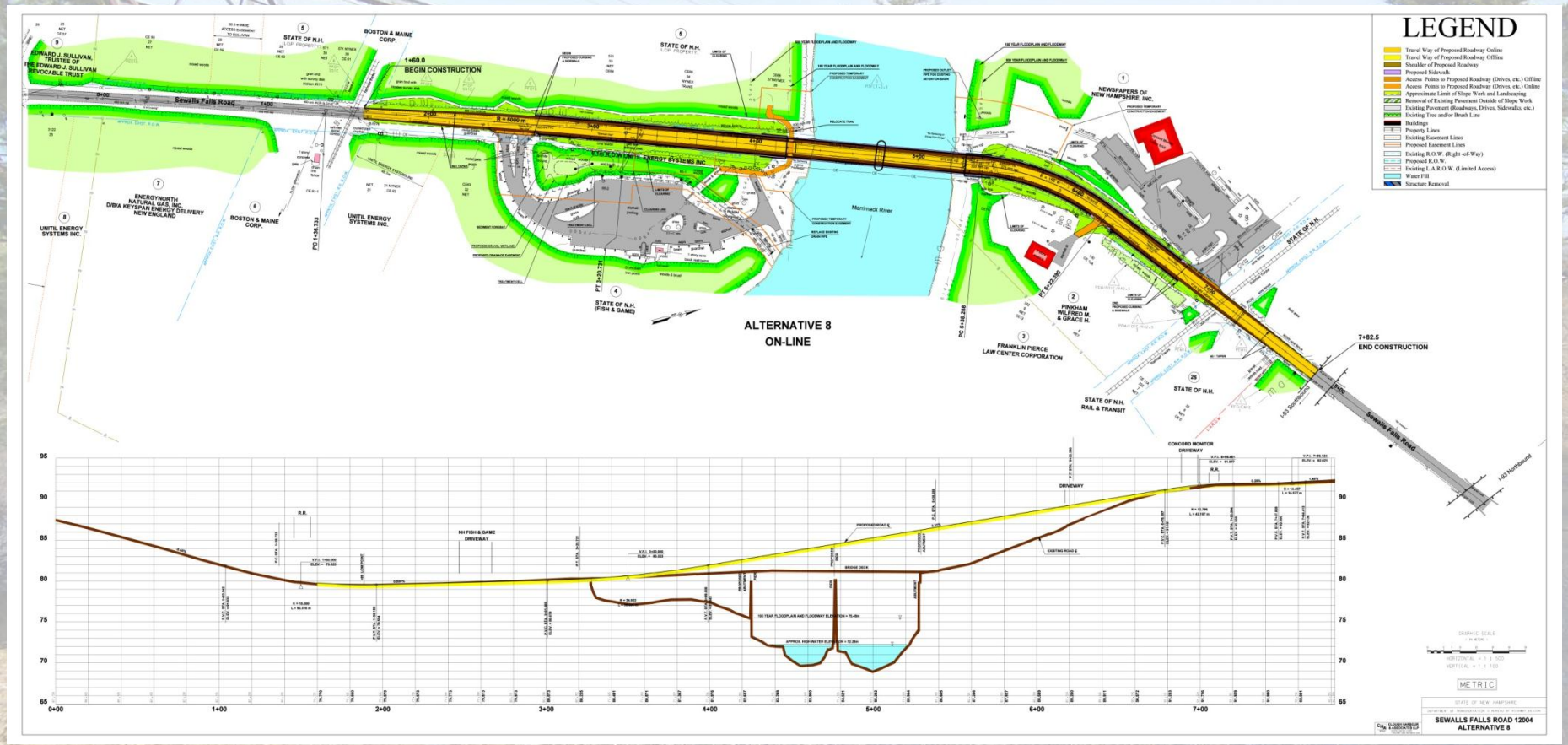
Off-Line New Bridge



Off-Line New Bridge



On-Line Replacement



Alternatives Summary Matrix

Criteria / Alternative	Rehabilitation Alt -H	Preservation Off-Line	Replacement On-Line
Cultural Impacts	Minor	Moderate	Significant
Environmental Impacts	Moderate	Significant	Minor
ROW Impacts	Moderate	Significant	Minor
Risk Contingency	High	Moderate	Minimal
Initial Costs	+$3,090,100	+ $778,000	Lowest
Maintenance Cost (25 year)	+$1,903,00	+$81,000	Lowest
Meets Long-term City Needs	No	Yes	Yes

- On-line Replacement
  - Removal of existing bridge
  - Minimizing environmental and ROW impacts
  - Minimal risk
  - Lowest initial and long term costs
  - Preferred roadway geometry
  - Meets immediate / long-term City needs

Recent Public Process

- **6/7/2012 - Heritage Commission**
  - review of detailed inspection and load rating
- **8/10/2012 – NHDHR**
  - review of detailed inspection and load rating
- **8/13/2012 - City Council**
  - review of detailed inspection and load rating
  - authorization to reevaluate alternatives
- **9/6/2012 - Heritage Commission**
  - review of alternatives analysis
- **9/13/2012 - Cultural Resource Meeting**
  - Review of detailed inspection and load rating
  - review of alternatives analysis
  - City to retain HDC

Recent Public Process

- **12/6/2012 - Cultural Resource Meeting**
  - review of HDC report, detailed inspection and load rating, alternatives analysis
- **12/19/2012 - Natural Resource Meeting**
  - review of detailed inspection and load rating, alternatives analysis
- **1/3/2013 - Heritage Commission**
  - review of HDC report, detailed inspection and load rating, alternatives analysis
- **1/23/2013 - Section 106 PIM**
  - review of HDC report, detailed inspection and load rating, alternatives analysis
- **2/11/2013 - City Council**
  - review of efforts to date
  - Council approves on-line replacement

Public Comment To Date

Public Comment by Consulting Parties

Next Steps

- Finalize Environmental Study and Programmatic 4(f) Evaluation
  - Responses from Regulatory Agencies
  - Mitigation Options

- Begin Final Design Spring / Summer 2013
- Advertise for Construction Spring / Summer 2014
- Construction Completed 2016

Questions / Comments /Answers

Truss Nomenclature